RK520-01 Communication Protocol（MODBUS-RTU）

1.Communication parameters(factory default):

Baud rate: 9600bps, Data bits:8,Stop bit:1,Check bit:no,Address:0x01

2.Examples for read data

Host Scan Order：

Slave id	Function code	Address_H	Address_L	Quantity_H	Quantity_L	CRC_L	CRC_H
0x01	0x03	0x00	0x00	0x00	0x02	0XC4	0X0B

Sensor Response

Slave id	Function code	Number of bytes	Temperature (Unsigned integer 2 bytes)	Humidity (Unsigned integer 2 bytes)	CRC_L	CRC_H
0x01	0x03	0x04	0x0123	0x0164	0X0A	0X7E

Temperature:(0123)H<0x8000,(0123)H=(291)D,291/10=29.1(℃)

If the data≧0x8000, for example:0xFF05,according to the following method to calculate：

0xFF05-0xFFFF-0x01=(65285)D-(65535)D-(1)D=(-251)D,-251/10=-25.1(℃)

Humidity:(0164)H=(356)D,356/10=35.6(%)

3.Examples for modify the address(After the restart to take effect)

Host Scan Order(change 01H to 02H)：

Slave id	Function code	Address_H	Address_L	New id_H	New id_L	CRC_L	CRC_H
0x01	0x06	0x00	0x30	0x00	0x02	0x08	0x04

Sensor Response(the same as the Host send)

Slave id	Function code	Address_H	Address_L	New id_H	New id_L	CRC_L	CRC_H
0x01	0x06	0x00	0x30	0x00	0x02	0x08	0x04

Note: If you forget the original address, you should use the broadcast address(FEH) (ensure that no other devices on the bus at this time.

4.Register description

Register name	Function code	Register address	Data type	Data length（byte）	R/W	Remark
Temperature	0x03	0x0000	Unsigned integer	2	R	℃
Humidity	0x03	0x0001	Unsigned integer	2	R	%
Modify Sensor address	0x06	0x0030	Unsigned integer	1	W	0-0xFF